Solvent Tray and Tray Supports for One-Dimension Descending Paper Chromatography in Glass Cylinders. William L. Porter, Eastern Regional Research Laboratory, Philadelphia 18, Pa.

MANY types of tanks, trays, and tray supports have been described in the literature (*1–6*) as the use of paper chromatography has progressed. The simple tray and tray support designed in this laboratory can be easily made in any metal shop

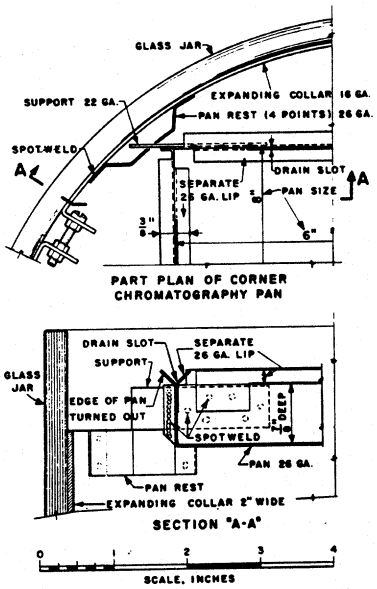

Figure 1. Details of Chromatographic Tray and Tray Support

equipped to work with stainless steel. The assembly does not rest on the bottom of the tank, and therefore is stable, and the area under the tray is clear and unobstructed.

The apparatus (Figures 1 and 2) was designed for use in a 12 × 24 inch, plain cylindrical jar. The measurements of the stainless steel band expansion ring and the pan rests for holding the tray are indicated in Figure 1.

The pan rests are spot-welded to the band for ease in assembly. The band is inserted in the cylinder, and the bolts are turned to expand the band against the inside wall. When the bolts are almost tight, the tray is placed in position on the support bracket and checked to ensure that it is level. The bolts are then tightened to secure the band.

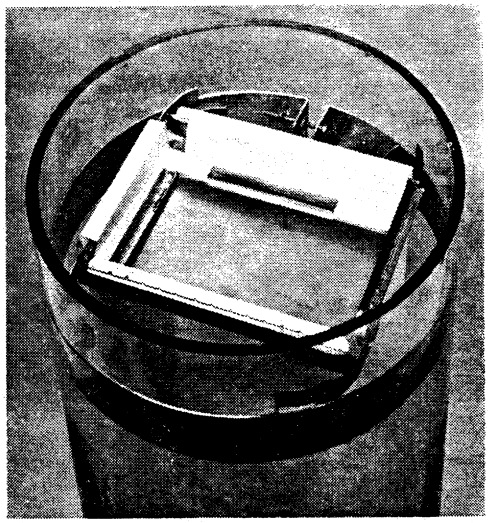

Figure 2. Assembly of Chromatographic Tray and Tray Support

The trays are made of stainless steel, silver-soldered at the corner seams. The troughs on each edge are designed to prevent the paper from touching either the inside or the outside of the tray sides, thus preventing any solvent from rising by capillarity between the paper and the wall. A slot is provided in the inner side of the trough to return to the tray any solvent that might accumulate. An alternative method is to drill $^1/_8$-inch holes along the line of bend before spot welding. The paper is held in the tray by means of small stainless steel bar weights, $^1/_2 \times {}^3/_{16} \times 4$ inches.

Types 302 and 304 stainless steel have both been used successfully for general chromatography.

The author wishes to thank Thomas Michener of this laboratory for his aid in designing the tray.

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